

# ***Sustainability Challenges from an Overseas COCOM Perspective***

Abby Goss

Environmental Engineer/DEIC PM

ECJ4-EN Engineering Division

US European Command

Stuttgart, Germany



United States  
**European Command**  
*"Stronger Together"*

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>24 MAY 2012</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2012 to 00-00-2012</b>	
4. TITLE AND SUBTITLE <b>Sustainability Challenges from an Overseas COCOM Perspective</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>US European Command, ECJ4-EN Engineering Division, Stuttgart, Germany,</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES <b>Presented at the NDIA Environment, Energy Security &amp; Sustainability (E2S2) Symposium &amp; Exhibition held 21-24 May 2012 in New Orleans, LA.</b>					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>16</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

# ***Agenda***

- DOD Sustainability Guidance and Docs
- US European Command Overview
- Case studies: Energy and Water
  - Energy efficiency standards for new buildings in Europe
  - Water quality at an overseas military location
- Other Challenges
- Play it forward: Interoperability Impacts
- What can we affect?



# ***DOD Sustainability Goals***

- DoD Strategic Sustainability Performance Plan (USD(A&L), 2011)
  - Goal 1: Use of fossil fuels reduced
  - Goal 2: Water resources management improved
  - Goal 3: Greenhouse gas emissions from Scope 1 and 2 sources reduced 34% from FY2008 by FY2020
  - Goal 4: Greenhouse gas emissions from Scope 3 sources reduced 13.5% from FY2008 by FY2020
  - Goal 5: Solid waste minimized and optimally managed
  - Goal 6: The use and release of chemicals of environmental concern minimized
  - Goal 7: Sustainability practices become the norm
  - Goal 8: Sustainability built into DoD management systems



# ***US EUCOM Overview***

- Mission: to conduct military operations, international military partnering, and interagency partnering to enhance transatlantic security and defend the United States forward.
- EUCOM's theater (area of responsibility for which it is responsible for planning and conducting US military missions) includes 51 independent countries that extend beyond Europe into the Caucasus and includes Israel.
  - 10.7 million square miles of land
  - 13 million square miles of ocean



*United States*  
***European Command***  
*"Stronger Together"*

# ***US EUCOM Overview***

## **Areas of Focus:**

- Ballistic Missile Defense
- Building Partnership Capacity
- Support to NATO/ISAF
- Energy Security
- Respond to Humanitarian Crisis
- Foster Interagency Cooperation
- Enhance Transatlantic Security

## ***U.S. Bases in Theater: 28 main operating bases***

- Navy: 4
- Air Force: 8
- Army: 16
- Marines: 0

## ***In Theater: 218,424***

- Navy: 6,403
- Air Force: 31,298
- Army: 43,157
- Marines: 1052
- Civilian: 29,598
- Military Dependents: 85,744



*United States*  
**European Command**  
*"Stronger Together"*

# ***Overarching Guidance on Operational Energy***

- Operational Energy Strategy (DSD, May 2011)
  - Three-fold approach:
    - More Fight, Less Fuel: Reduce Demand for Energy in Military Operations
    - More Options, Less Risk: Expand and Secure Energy Supplies for Military Operations
    - More Capability, Less Cost: Build Energy Security into the Future Force





# ***Overarching Guidance on Operational Energy***

- Operational Energy Strategy: Implementation Plan (SecDef, 6 Mar 2012)
  - Target 1: Measure Operational Energy Consumption (COCOM OCR)
  - Target 2: Improve Energy Performance and efficiency in Operations and Training (COCOM OCR)
  - Target 3: Promote Operational Energy Innovation
  - Target 4: Improve Operational Energy Security at Fixed Installations (COCOM OCR)
  - Target 5: Promote the Development of Alternative Fuels
  - Target 6: Incorporate Energy Security Considerations into Requirements and Acquisition
  - Target 7: Adapt Policy, Doctrine, Professional Military Education, and Combatant Command Activities (COCOM OPR)





# Energy Efficiency

## New building requirements

- Spain: all new or renovated buildings must integrate solar thermal energy to heat 30%-70% of domestic hot water (Mar 2006)
- Germany: a minimum of 14% of the energy for heating and hot water in new buildings must be from renewable power (Jan 2009)
- Italy: New buildings must use renewable energy sources such as solar panels to provide at least 50% of their daily hot water usage (Dec 2006)

## US Building Requirements in Host Nation

- LEED Silver Standard required in new federal construction starting FY12

Percent	Renewable Energy Points
2.5%	1
7.5%	2
12.5%	3



# ***Resulting Challenges***

- Unfavorable perception – US non-attainment of host nation energy efficiency requirements could send a message of indifference when it comes to being good stewards of the host nation's environment
- Partner engagement – more difficult to engage on climate change, energy security, or sustainable basing topics with partner nations when we may not be perceived as “walking the walk”
- Implementation of energy efficiency standards in new construction often comes with higher initial capital costs. New military construction (> \$750K) must be approved by Congress. In today's fiscal climate, it is more difficult to gain approval for projects with higher initial costs regardless of the ROI period.



# ***Overarching Guidance on Water Quality at Overseas Bases***

- Overseas Environmental Baseline Guidance Document (OEBGD) - *provides criteria, standards, and management practices for environmental compliance at DoD installations overseas (DoD 4715.05-G, May 1, 2007)*
  - provides criteria and management practices to be used by DoD Environmental Executive Agents (EEA) in determining Final Governing Standards (FGS)
  - establishes standards for environmental compliance at DoD controlled or operated installations in countries for which no FGS have been established
- Final Governing Standards (FGS) - A comprehensive set of country-specific substantive provisions, typically technical limitations on effluent, discharges, etc., or a specific management practice.



# ***Water Quality Case Study***

- *June 2007*: Trash crisis raises concerns; Public Health Evaluation requested.
- *Nov 2007*: US and host nation authorities agree to work together; US granted permission to collect water samples.
- *Jun 2008*: **Contaminated tap water found at off-base homes. Sampling results lead to first relocations of U.S. personnel living off-base.**
- *Jul 2008*: **Bottled Water Advisory** issued for U.S. personnel living off-base.
- *Nov 2008*: **New Lease Suspension Zones** established based on collected data, and new health protective lease clauses implemented for off-base rentals.
- *Nov 2009*: Water Distribution Point installed on base to provide free drinking water to U.S. personnel living off base.



# ***Resulting Challenges***

- Risk offending the host nation :
  - Differences in sampling criteria and process inadvertently challenges the host nation's procedures
  - subsequent relocation of families out of the neighborhoods may send the "not good enough for the US" message
  - New Lease Suspension Zones likely builds resentment among realtors and landlords
- US Impact:
  - Significant costs and inconvenience to the military and civilian Service members (relocations, bottled water, water distribution points)
  - Frustration from the environmental compliance side (resolving points of compliance questions, operator's training certificate requirements)



# ***Other Challenges***

- Power requirements
- Wastewater
- Communications and reliability
- DoD material specs (e.g. concrete)
- Maintenance and lifecycle differences
- Technical skills for maintenance or operation
- AT/FP considerations and requirements for buildings and bases
- Perception
- Consumer patterns
- Return on Investment timelines
- Shrinking budgets
- US/DoD standards





# ***Interoperability Impacts***

- Drinking water quality
  - Identifying issues at overseas bases improves combined basing during contingencies
  - Reduces secondary impacts such as bottled water shipment, waste, etc.
- Operational energy generation and consumption
  - Sustainable basing efforts often retroactive
  - Proven technologies CONUS or at forward bases allow first iteration implementation



Photo: US Army, DoD Strategic Sustainability Performance Plan



*United States*  
***European Command***  
*"Stronger Together"*



# ***What can we (collectively) affect?***

Congressional approval of projects – probably not?

But...

- More robust identification of interoperability challenges
- Better selection of commercial off-the-shelf items
- Identifying and addressing compliance questions now
- Energy efficiency minimum standards in construction (e.g. motion sensors for lights)
- Cultural change – consumer demand
- Education for senior leadership



*United States*  
***European Command***  
*"Stronger Together"*

# QUESTIONS?



Source: [www.info.ussolarinstitute.com](http://www.info.ussolarinstitute.com)

Abby Goss  
[abigail.goss@eucom.mil](mailto:abigail.goss@eucom.mil)  
+49-711-680-7504



United States  
**European Command**  
"Stronger Together"